

CLAIMS

1. A block, particularly for filtering particulates present in the exhaust gases of an internal combustion engine, said block (11) comprising a plurality of flow channels for said gases (14e,14s), each of said channels (14e,14s) being bounded by a side wall (22), a plug (15e,15s) and an opening (19e,19s) terminating outwardly, characterized in that a first portion (34) of the side wall (22) of at least one of said channels (14p,14p''), called the "reinforced channel", comprises a reinforcement compared to the rest of said side wall (22) forming a second portion (36) of said side wall (22), the ratio (R) of the thickness of said first portion (34) to the thickness of said second portion (36), in a transverse plane of section (P), being between 1.1 and 3.
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2. The block as claimed in claim 1, characterized in that it comprises a group of said adjacent reinforced channels (14p',14p,14p'') arranged so that said first portions of said reinforced channels form a continuous reinforcing partition (30).
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3. The block as claimed in claim 2, characterized in that said reinforced channels of said group (14p',14p,14p'') extend to the periphery of said block.
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4. The block as claimed in any one of the preceding claims, characterized in that said first portion (34) comprises an external face in contact with the exterior of said block (11).
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5. The block as claimed in any one of claims 2 to 4, characterized in that said reinforced channels of said group (14p',14p,14p'') are arranged so that said reinforcing partition (30) overlaps a longitudinal edge (11') of said filter block.
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6. The block as claimed in any one of claims 2 to 5, characterized in that said group of reinforced channels (14p',14p,14p'') comprises all the peripheral channels of said block (11) so that said reinforcing partition (30) surrounds said block, preferably so that said reinforcing partition (30) is at the external surface (16) of said block (11).
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7. The block as claimed in any one of the preceding claims, characterized in that said ratio (R) is constant irrespective of the transverse plane of section (P) considered.
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8. The block as claimed in any one of the preceding claims, characterized in that said reinforcement is substantially constant in any longitudinal plane of section of said block.
9. The block as claimed in any one of claims 2 to 8, characterized in that said reinforcement is substantially constant for all the reinforced channels of said

group in any transverse plane of section and/or in any longitudinal plane.

10. The filter block as claimed in any one of the preceding claims, characterized in that said ratio R is between 1.9 and 2.1, preferably is substantially equal to 2.

5        11. A filter body for a particulate filter, characterized in that it comprises at least one filter block as claimed in any one of the preceding claims.

10        12. An extrusion die conformed to form, by extrusion of a ceramic material, a structure provided with channels suitable for the fabrication of a filter block as claimed in any one of the preceding claims, said structure comprising said reinforcement.

13. A method for fabricating a block as claimed in any one of claims 1 to 10, comprising the following successive steps:

- a) extrusion of a ceramic material to form a porous honeycomb structure,
- b) application of a reinforcement of a material, identical or different from said ceramic material, to at least part of the external surface of said porous structure, and
- c) drying and sintering of said porous structure to obtain a filter block.

14. The method as claimed in claim 13, characterized in that it further comprises a step for drying said porous structure between steps a) and b).

20        15. The method as claimed in claim 14, characterized in that it further comprises a step for machining said dried porous structure obtained before step b).

16. The method as claimed in claim 15, characterized in that, in step b), said material reinforcement is applied at least to part of said external surface having been machined.

25        17. A method for fabricating a filter body (3) by assembling a plurality of filter blocks (11a-11b), characterized in that at least one of said filter blocks is fabricated by a method as claimed in any one of claims 13 to 16.